STAT

May 23, 1968

ANAMORPHIC EYEPIECE PRELIMINARY SPECIFICATIONS

The 53990878 Anamorphic Eyepiece is an attachment to the [redacted] High Power Stereo Viewer which allows an operator to vary the magnification ratio along one axis of view without changing the magnification along the axis normal to the "stretched" axis. The Anamorphic Eyepieces replace the standard HPSV Eyepieces and are readily attached to and removed from the instrument with very minimal effort. The anamorphic ratio is continuously variable from unity to a value of 2.2 to 1, and the direction of the anamorphic magnification is continuously rotatable through 360°; other detail specifications are listed below:

1. Eyepoint extension beyond the standard HPSV eyepoint is less than 2 inches.
2. Eye Relief will be at least 90% of the standard HPSV.
3. Field Size will be at least 95% of field of the standard HPSV.
4. Field flatness will be within 5% of field flatness of the standard HPSV.
5. Average resolution of Anamorphic Eyepieces will be at least 88% of average resolution of standard HPSV. (At no anamorphic stretch).
6. Image run-out, measured in a filar-type eyepiece when the HPSV image rotation knob is rotated through 360° will not exceed 2.3mm.

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ACCEPTANCE PROCEDURES FOR A.E.P. QUOTATION

1. All comparative performance tests will be made on a GFE HPSV meeting the requirements set for instruments now in service. This shall constitute the inspection tool and is refered to as the "standard HPSV" in the specification.
2. This standard viewer shall include:

STAT [redacted] 3X, 6X and 10X Objectives

[redacted] 6X and 10X Eyepieces.

A report establishing the data to which the comparisons will be made will be submitted to the customer.

3. Off-axis resolution will be measured at three field positions which will be at .8 of field at approximately 0°, 120° and 240°.
4. Targets will be high contrast type with black bars on white background.
5. Average resolution values are determined by taking the arithmetical average of all the resolution readings for the (6) magnifications (top and bottom of zoom range for 3 objectives).
6. A diopter telescope will be used to measure resolution at some magnifications.
7. The measured anamorphic magnification ratio will be within the following limits:

Anamorphic Magnification Scale Setting	Tolerance
1:1	±6.0%
1.2:1	
1.4:1	

ACCEPTANCE PROCEDURES FOR A.E.P. QUOTATION

Anamorphic Magnification Scale Setting	Tolerance
1.6:1 1.8:1 2.0:1 2.2:1	±5.0%

8. Field flatness will be measured indirectly by using the fall-off of resolution at the field positions as compared to the axial resolution in both the standard HPSV and the Anamorphic Eyepieces.

9. All measurements except for determination of anamorphic magnification will be made at no anamorphic magnification.